THE FOLLOWING IS THE ENGLISH TRANSLATION OF THE AMENDMENTS TO THE CLAIMS OF THE INTERNATIONAL APPLICATION UNDER PCT ARTICLE 19:

AMENDED SHEETS (Pages 68-76)

CLAIMS

1. Electromechanical microstructure 1 comprising a first part known as a mechanical part 102 formed in a first electrically conductive material, and which comprises on the one hand a zone 104 deformable in an elastic manner having a thickness value and an exposed surface 2, and on the other hand a first organic film 4 having a thickness, present on the whole of the exposed surface 2 of said deformable zone 104, characterised in that the thickness of the first film 4 is such that the elastic response of the deformable zone 104 equipped with the first film 4 does not change by more than 5% compared to the response of the bare deformable zone 104 or in that the thickness of the first film 4 is less than ten times the thickness of the deformable zone 104.

2. Electromechanical microstructure 1 according to claim 1, characterised in that the thickness of the first film 4 is such that the elastic response of the deformable zone 104 equipped with the first film 4 does not change by more than 1%.

3. Electromechanical microstructure 1 according to one of claims 1 to 2, characterised in that the first film 4 consists of an organic film bonded in a covalent manner to the exposed surface 2 of the deformable zone 104.

4. Electromechanical microstructure 1 according to claim 3, characterised in that the first film 4 consists of a layer of a molecule of fixed length bonded in a covalent manner to the exposed surface 2 of the deformable zone 104 and in that the first film 4 is

formed in a material that may be deposited from an electro-initiated reaction.

5. Electromechanical microstructure 1 according to claim 4, characterised in that the level of covering of the exposed surface 2 by the first film 4 is greater than 60%.

6. Electromechanical microstructure 1 according to claim 4, characterised in that the level of covering of the exposed surface 2 by the first film 4 is greater than 90%.

7. Electromechanical microstructure 1 according to one of claims 4 to 6, characterised in that it comprises at the surface of the mechanical part 102, an annular zone 5, surrounding the exposed surface 2, having itself a surface 6 and formed in a second electrically conductive material, different in the sense of the electro-initiated reaction from the first material of the mechanical part 102, and in that a second organic film 7 is present on the surface 6 of said annular zone 5, this second film 7 being a film formed in a material that may be deposited from an electro-initiated chemical reaction.

8. Electromechanical microstructure 1 according to one of claims 4 to 6, characterised in that the first material constituting the mechanical part 102 is a doped semi-conductor and in that it comprises at the surface of the mechanical part 102, an annular zone 5, surrounding the exposed surface 2, having itself a surface 6 and formed in a second material formed by doping of type opposite to that of the first material and in that a second organic film 7 is present on the

surface 6 of said annular zone 5, said second film 7 being a film formed in a material that may be deposited from an electro-initiated chemical reaction.

9. Electromechanical microstructure 1 according to one of claims 7 to 8, characterised in that the mechanical part 102 comprises one or several contact points 8 in a position exterior to the annular zone 5.

10. Electromechanical microstructure 1 according to claim 7, characterised in that the mechanical part 102 comprises one or several first contact points 8 having a surface 9 formed in a third material, different in the sense of the electro-initiated reaction from the first and second materials, in a position exterior to the annular zone 5 and in that a third organic film 10 is present on the surface 9 of the first contact points 8, said third film 10 being a film formed in a material that may be deposited from an electro-initiated chemical reaction.

11. Electromechanical microstructure 1 according to claim 8, characterised in that the mechanical part 102 comprises one or several first contact points 8 having a surface 9 formed in a third material, different in the sense of the electro-initiated reaction from the first material, in a position exterior to the annular zone 5 and in that a third organic film 10 is present on the surface 9 of the first contact points 8, this third film 10 being a film formed in a material that may be deposited from an electro-initiated chemical reaction.

12. Electromechanical microstructure 1 according to one of claims 10 to 11, characterised in that it comprises a second electrically conductive part 11,

electrically insulated from and mechanically integral with the mechanical part 102 comprising one or several second contact points 12 having a surface 13 formed in a material different in the sense of the electro-initiated reaction from the material constituting the second part 11 and in that a fourth organic film 14 is present on the surface 13 of the second contact points 12, said fourth film 14 being a film formed in a material that may be deposited from an electro-initiated chemical reaction.

13. Electromechanical microstructure 1 according to claim 12, characterised in that it comprises a third part 15, mechanically integral with the first and second mechanical parts 102 and 11, electrically insulated from the first mechanical part 102, formed in an electrically conductive material and in that the second part and the third part are electrically connected.

14. Electromechanical microstructure 1 according to claim 12, characterised in that the first part 102 consists of a first layer of silicon, and in that the first and second parts 102 and 11 are integral with a same insulating layer 16.

15. Electromechanical microstructure 1 according to claim 13, characterised in that the first part 102 consists of a first layer of monocrystalline silicon, and in that the first and second parts 102 and 11 are integral with a same insulating layer 16 and in that the third part 15 consists of a second layer of silicon on which lies said insulating layer 16.

16. Electromechanical microstructure 1 according to one of claims 14 or 15, characterised in that the

insulating layer 16 comprises a recess 18 situated immediately underneath the deformable zone 104.

17. Electromechanical microstructure 1 according to one of claims 1 to 7 or 10, characterised in that the first material constituting the mechanical part 102 is a doped semi-conductor and in that a doping of type opposite to that of the first material defines an electrode contact 19 at the surface of the mechanical part 102 outside of the exposed surface 2.

18. Electromechanical microstructure 1 according to one of claims 1 to 17, characterised in that the first organic film 4 is in a material such that the exposed surface 2 of the deformable zone 104 covered with this film 4 has biocompatibility, non cyctotoxicity and/or anti-adhesion or cellular anti-proliferation functions.

19. Electromechanical microstructure 1 according to one of claims 7 to 17, characterised in that the second film 7 is a film with biocompatibility and non-cyctotoxicity functions.

20. Pressure sensor incorporating an electromechanical microstructure 1 according to one of claims 1 to 19.

21. Wafer 100 comprising a series of microstructures 1 according to one of claims 1 to 7 or according to claim 10, characterised in that it comprises a first shared electrode 106a electrically connecting all of the mechanical parts 102 between them.

22. Wafer 100 comprising a series of microstructures 1 according to claim 8, characterised in that it comprises a first shared electrode 106b

electrically connecting all of the annular zones 5 between them and in that the polarity necessary to electro-initiate the first film 4 corresponds to the open sense of a diode created by the doping in the sense annular zone 5 towards deformable zone 104 of the mechanical part 102.

23. Wafer 100 comprising a series of microstructures 1 according to claim 8 or claim 11, characterised in that it comprises a first shared electrode 106a electrically connecting all of the mechanical parts 102 between them and in that the polarity necessary to electro-initiate the second film 7 corresponds to the open sense of a diode created by the doping in the sense from the deformable zone 104 towards the annular zone 5 of the mechanical part 102.

24. Wafer 100 comprising a series of microstructures 1 according to claim 11, characterised in that it comprises a first shared electrode 106b electrically connecting all of the annular zones 5 between them and in that the polarity necessary to electro-initiate the first and third films 4 and 10 is identical and corresponds to the open sense of the diode created by the doping in the sense annular zone 5 to the deformable zone 104 of the mechanical part 102.

25. Wafer 100 comprising a series of microstructures 1 according to one of claims 12 to 13, characterised in that it comprises a first shared electrode 106a electrically connecting all of the mechanical parts 102 between them and a second shared electrode 106c formed on the surface of the wafer 100 electrically connecting all of the second parts 11.

26. Wafer 100 comprising a series of microstructures 1 according to claim 17, characterised in that it comprises a first shared electrode 106d electrically connecting all of the electrode pads 19 and in that the polarity necessary to electro-initiate the organic films 4, 7, 10 corresponds to the open sense of the diode created by the doping in the sense from the electrode contact 19 towards the mechanical part 102.

27. Microsystem 200 characterised in that it comprises an electromechanical microstructure 1 according to one of claims 1 to 6, electrically assembled with the front face turned round on an interconnection support 402 comprising an opening 405 facing the deformable part 104 of the microstructure 1.

28. Microsystem 200 characterised in that it comprises an electromechanical microstructure 1 according to one of claims 7 to 9, electrically assembled with the front face turned round on an interconnection support 402 comprising an opening 405 facing the deformable zone 104 of the microstructure 1, the film 7 of the annular zone 5 of the microstructure 1 being in an insulating thermofusible material and coming into contact with a substrate 900 of the support 402 to form a sealing joint 1008 around the deformable zone 104 of the microstructure 1.

29. Microsystem 200 characterised in that it comprises an electromechanical microstructure 1 according to one of claims 10 to 13, electrically assembled with the front face turned round on an interconnection support 402 comprising an opening 405 leading out opposite the deformable zone 104 of the

microstructure 1, the film 7 of the annular zone 5 of the microstructure 1 being in an insulating thermofusible material and coming into contact with a substrate 900 of the support 402 to form a sealing joint 7 around the deformable zone 104 of the microstructure 1, the film 10 or 14 of contact points 8 or 12 of the microstructure 1 being in a conductive thermofusible material and coming into contact with pads 908 of the support 402 to form a mechanical and electrical connection 10, 14 between the microstructure 1 and the support 402.

30. Microsystem 200 according to claim 29 characterised in that the contact points 908 of the support 402 comprises a film formed in a conductive thermofusible material obtained from an electro-initiated reaction, said covered pads coming into contact with films 10, 14 of the contact points 8, 12 of the microstructure 1 to ensure an electrical and mechanical connection between the support 402 and the microstructure 1 by heat sealing.

31. Microsystem 200 according to one of claims 28 to 30 characterised in that a substrate 900 of the support 402 comprises a film formed in a thermofusible insulating material obtained from an electro-initiated reaction, a part of the covered substrate 900 coming into contact with the film 7 of the annular zone 5 of the microstructure 1 to form a sealing joint 1008 around the deformable zone 104 of the microstructure 1 by heat sealing.

32. Microsystem 200 according to one of claims 27 to 31 characterised in that the support 402 is formed

from a wafer in silicon, and in that it comprises a probe 902 connected to a dedicated electronic component 400 itself assembled on the support 402.